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ONTARIO WATER
RESOURCES COMMISSION

FRANKFORD

**SEWAGE TREATMENT PLANT
&
WATER SUPPLY SYSTEM
ANNUAL REPORT**

1960

PREPARED BY

THE DIVISION OF PLANT OPERATIONS

ONTARIO WATER RESOURCES COMMISSION

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ANNUAL REPORT ON VILLAGE OF FRANKFORD

Water and Sewage Systems

Early in 1956 the Village of Frankford felt the need for modern water and sewage facilities. The consulting engineers to the Village, Graham Reid and Associates Ltd. prepared a report in August, 1956, outlining their proposals and estimate of costs. It was felt by all concerned that the proposals were beyond their financial ability.

However, the Commission and the Village joined in an investigation for a suitable supply of well water. This was readily found and the consulting engineer revised his design.

Tenders were called but the Ontario Municipal Board advised against construction of such an expensive project. Design and tenders were finally reduced to approximately \$275,000.00 value. Early in 1958 the Village of Frankford entered into an agreement with the Ontario Water Resources Commission for the construction and operation of a water supply system, sewers and sewage treatment plant.

Construction began soon after and both systems were officially opened on November 25, 1958. Harry Patrick was appointed operator.

A description of the systems is as follows:

WATER:

Pumping Station and Well.

Pump capacity - - - - 300 IGPM

Distribution system - 115,000 Gallon stand pipe reservoir,
water mains, hydrants, valves and
appurtenances.

SEWAGE:

The sewage is collected in a system of sewers and brought to a collecting well at the sewage treatment plant where it receives full treatment by,

Type of Plant - - High rate trickling filter
Design Population - - 2700 ultimately
Per Capita Flow - - 200 gallons per day (3DWF)
Design Plant Flow - - Primary: 540,000 gpd
Secondary: 120,000 gpd

Raw Sewage Pumping Station

2 pumps - 1 electric, 1 cfs @ 20' head = 540,000 gpd
- 1 gasoline - standby
wet well - 16' x 3' x 3'
capacity 550 gallons
float control to pumps

Screening

Coarse bar screen - 1/2" x 1 1/2" bars @ 1" crs.

Grit Removal

2 units 2' x 9' x 12" water depth @ 1 cfs - velocity 0.5 ft/sec

Settling Tank - mechanically cleaned

16'6" x 60' x 7'5" water depth
Volume - 7455 cu. ft. or 46,500 gallons.
Retention period @ 1 cfs. = 2 hrs.
Surface settling rate - 565 gals/sq.ft. tank/day
Overflow Rate - 33,800 gals/lin.ft. weir/day

Trickling Filter - design flow 120,000 gpd

42 ft. dia. 4 ft. deep.
Media pass 5" retained on 3" screen
Recirculation 3:1 back through primary tank
1.5 lbs. BOD/cu.yd. media/day

Final Settling Tank

Earth banked pond 16'x40'x3' deep

Retention - 2 hrs.

also used as chlorine contact chamber.

The water supply system has been working satisfactorily for more than one year and there would appear to be adequate fire protection.

In 1960, 15,141,000 gallons were supplied to consumers at an operating cost of \$0.074 per 1000 gallons.

The sewage treatment plant has been operating well considering the small amounts of sewage requiring treatment.

There has been some reluctance on the part of the populace toward taking advantage of the sanitary facilities, with the result that the plant has been working well but not at full efficiency.

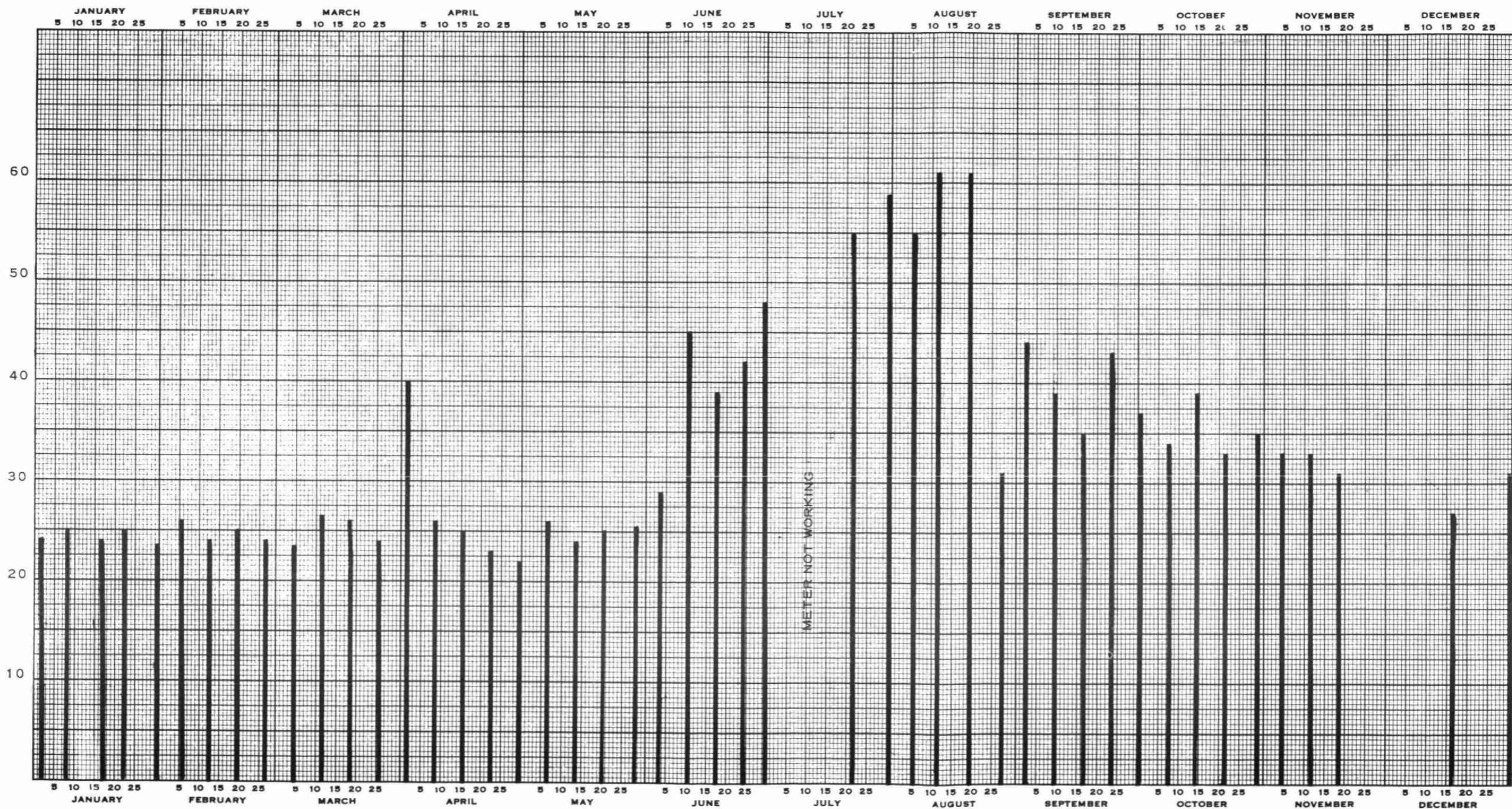
The total quantity of sewage treated can only be estimated since there is no recording mechanism at the plant. Installation of such a mechanism would be desirable in the coming year.

An estimate of the flow would be approximately 15,000,000 gallons annually. The cost of treatment was \$0.30 per 1000 gallons.

The total capital and operating cost of 1000 gallons of water supplied and subsequently treated as sewage is \$1.52.

1960
AVERAGE DAILY FLOW FOR THE WEEK
FRANKFORD WATERWORKS

GAL X 1000



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